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Association Between Metabolic Syndrome and its Components and Heart Failure

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Background

The metabolic syndrome (MetS) is a clustering of risk factors associated with an increased risk for cardiovascular disease and type two diabetes mellitus. We aimed to identify the prevalence of MetS in patients with systolic heart failure (HF) and to determine the relation of its components to systolic HF.

Methods

A total of 100 patients with an ejection fraction 35% enrolled prospectively in this multicenter study. All recruited patients subjected to thorough history taking, clinical examination, chest X-ray, electrocardiography, echocardiography, biochemical tests (fasting blood glucose, triglycerides, HDL-C, urea, creatinine, AST, ALT, & PT, T_3,T_4,TSH, complete blood picture, serum Na & K levels). Waist circumference; measured midway between the lower limit of the rib cage and iliac crest with nondistensible and flexible tape; was assessed in all included patients.

Results

Metabolic syndrome was prevalent in patients with severe systolic dysfunction. Hypertension, hyperglycemia, and visceral obesity were the most common component of MetS in patients with severe systolic dysfunction HF. In males with systolic dysfunction HF, the most prevalent components of MetS were hyperglycemia (70%) followed by hypertension (67%), and visceral obesity (58%). In females with systolic dysfunction HF, the most prevalent components of MetS were hypertension (75%), hyperglycemia (56%), and visceral obesity (50%). Prevalence of MetS did not differ with age group (< 65 yrs. & 65 yrs.). Low HDL-C was significantly present in patients above 65 yrs old (72%), whereas the other MetS components did not change significantly with age. The mean number of positive MetS components was 2.6, which was not significantly different between genders or with age. There was higher prevalence of ischemic heart disease in patients with MetS (74.2%), however the rest of MetS patients (25.8%) have no ischemic heart disease (either by history, ECG, or resting Echo) in which MetS may cause heart failure by mechanisms other than ischemic heart disease.

Conclusion

Metabolic syndrome is prevalent in systolic dysfunction HF patients.

Other Information

Author Disclosures:

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